Southeast Asia, Australia and Oceania, 1400–1780

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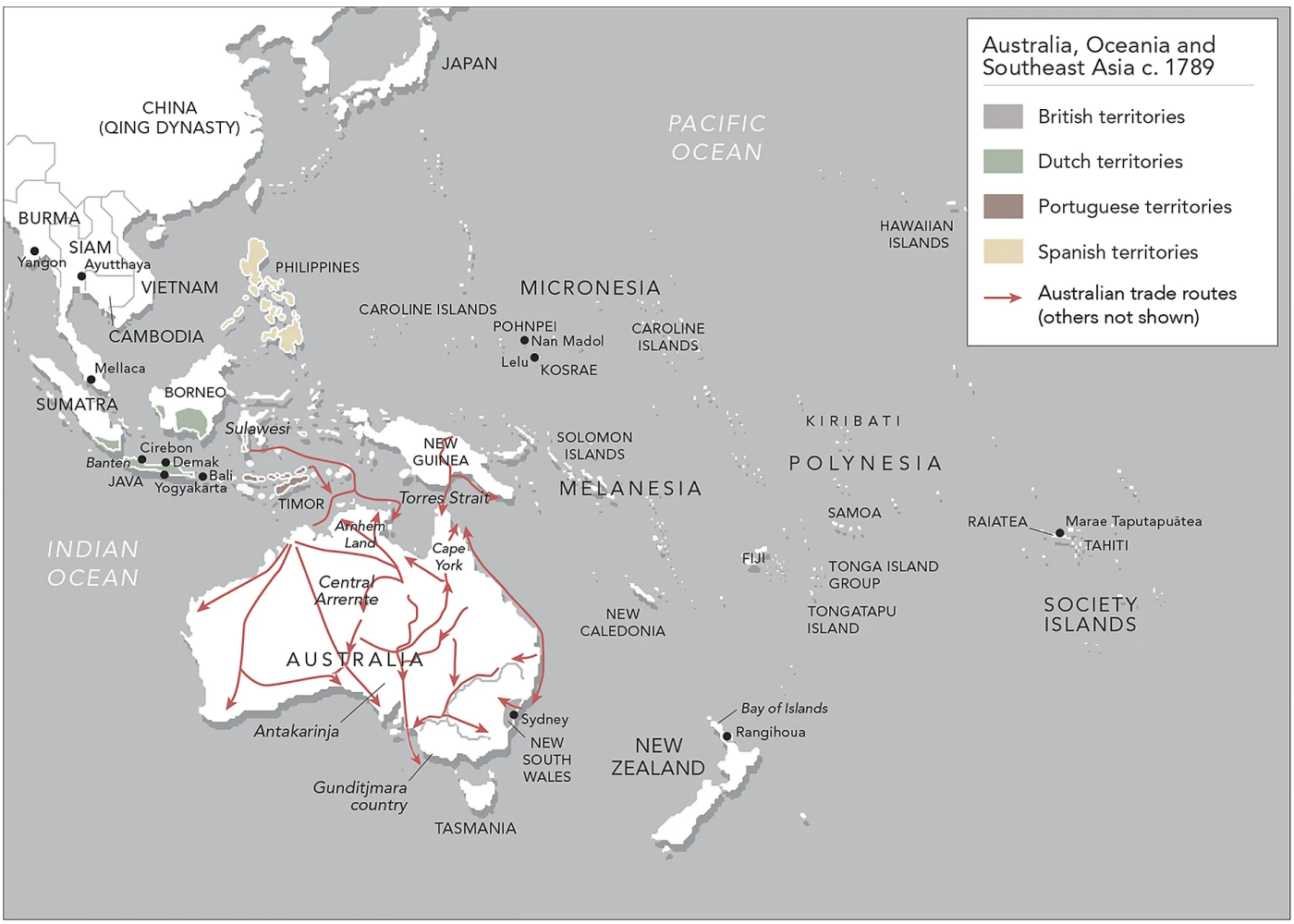
History and Geography

Covering over one-third of the world's surface – when one takes into account also the oceans and seas – the vast region of Southeast Asia, Australia and Oceania is historically, culturally and architecturally diverse. Its many landscapes and seascapes were strong influences on building development, since they determined the availability of building materials and the opportunities for – and restrictions upon – social contact between different peoples.

Southeast Asia today comprises eleven countries: Cambodia, Laos, Myanmar, Thailand, Vietnam, Malaysia, Indonesia, Singapore, the Philippines, East Timor and Brunei. They all share a tropical climate and a location between two other great centres of civilization in India and China. On the south and east, the region forms a transitional zone between Asia and Oceania. The thirteenth century signalled an important shift in the region's history. The Thais founded the kingdom of Sukhothai, which eventually absorbed most of the ancient Khmer Empire (see Vol. 1, Chapter 54, map 54.1). As a result, the main form of architectural activity in the former empire's territories – now comprising Cambodia and parts of Vietnam, Laos and Thailand – shifted from Hindu temples to Buddhist stupas (mound-like structures containing relics). In Indonesia, Islam began to penetrate the region, but only became the dominant religion there after 1500. An early wave of Chinese immigration in the fourteenth and fifteenth centuries also contributed to the evolution of architectural designs in Southeast Asia. European influence came with the arrival of Portuguese merchants and settlers during the sixteenth century, and the Dutch and English at the beginning of the seventeenth century.



Map 70.1. Australia, Oceania and Southeast Asia c. 1789 LEANNE KELMAN / ENCOMPASS GRAPHICS / RIBA COLLECTIONS.

Due to its vast land mass – in effect, a continent unto itself – Australia can be seen as connected to but also historically and culturally separated from the islands of Oceania that generally lie to its east. During this period, indigenous Australia was divided into a set of distinct cultural regions corresponding with natural land systems, geographic and climatic

features. In each region a substantial body of architectural knowledge was employed in settlement life in conjunction with a hunter-gatherer or hunter-gatherer-fisher lifestyle. Each such regional body of knowledge can be termed an 'ethno-architecture' or an 'Aboriginal architecture'. This classical Aboriginal ethno-architecture had been practised for numerous millennia in relative isolation throughout the Holocene, and thus since the end of the Ice Age with the land separation from New Guinea. The Torres Strait Islands to the north of Cape York contained a separate Melanesian cultural bloc which now collectively identifies as Torres Strait Islanders. They maintained trade connections between southern Papua and Cape York, facilitating an influx of Melanesian influences into Australia. It is estimated that some 500,000 or more Aboriginal people were distributed across the Australian continent when British colonization began in 1788. Most were concentrated in the wetter and more fertile coastal areas of the north, east and southeast, although coastal camps and geographies were at times disrupted by tidal surges arising from cyclones or seismic disturbances. The coastal societies experienced only sporadic contact with foreign marine explorers (French, Spanish, English, Chinese). The exceptions were Macassan fishermen from Indonesia who had some sustained contact in the north involving the introduction of iron and steel tools, cloth and other traits. Aboriginal groups in the interior were generally more stable, although in the arid desert areas intermittently sought refuge in neighbouring countries during prolonged droughts.

Slightly to the east, in the diverse collection of southern Pacific islands that we now classify as Oceania, humans had completed their settlement by 1400. In a relatively rapid timeframe of 3,500 years, the different Pacific peoples had explored and occupied the most readily habitable land masses across a third of the world's surface, and this had been accomplished by long-distance voyaging using highly developed marine technology and navigational techniques, the latter reliant on memory and a close reading of ocean patterns and ecologies. The people of Oceania have always regarded the sea as a bridge rather than a barrier, a watery continent where they have occupied tens of thousands of islands originally created by tectonic and associated volcanic activities on and around the Pacific Plate. Settlement of Oceania began from Southeast Asia, with some voyagers staying in western Micronesia to the northeast, and others moving south to Melanesia, establishing themselves in New Guinea, the Bismarck Archipelago and the Solomon Islands. About 1200, voyagers from the latter islands intentionally settled in eastern and central Micronesia, and Vanuatu and New Caledonia in southeast Melanesia. A century later they moved quickly eastwards to inhabit widely distributed high and low islands in the Fiji, Tonga and Samoa groups, among others. This easterly destination was the birthplace of 'Polynesian' culture. It was from here that the Cook, Austral, Society, Marquesas and Tuamotu islands were settled in the following centuries, and the extreme edges of Polynesia – the Hawaiian group, Rapanui and Aotearoa New Zealand – occupied between 400 and 1300.

Culture and Society

In 1400, Southeast Asia consisted generally of a large number of small principalities organized according to a hierarchy that historians call the *mandala* system. Population density was low and manpower was scarce, so warfare mainly concentrated on capturing other peoples, rather than killing them and taking their land. One result of this pattern was considerable cultural diversity. In the early fifteenth century, the major centres of political power were Ayutthaya in Thailand and Majapahit in Indonesia. The sixteenth century, however, was a period of disarray. Majapahit disintegrated and no new centre arose to replace it. Pegu (now spelled Bago, in Myanmar) rose to challenge Ayutthaya for supremacy in the mid-sixteenth century. The Portuguese conquered Melaka (Malacca), the main Southeast Asian trading port, in 1511. Port cities became more significant than they had ever been. The ports formed melting pots where Chinese, Islamic and European architectural ideas combined with indigenous building forms to produce syncretic architectural designs. Palaces and their gardens from this period – such as the Taman Sari (see Taman Sari, fig. 70.1) – provide interesting examples of these building genres. By the eighteenth century, the Southeast Asian shop-house had begun to appear as a new form of urban building type.

Taman Sari

Taman Sari (Indonesian for 'Perfumed Garden') is a royal garden in the island of Java. Its characteristics including a complex system of water circulation, artificial caves, symbolic mountains, artificial islands and designated areas for certain types of plants. The oldest reference to a royal garden in Indonesia dates from 684 CE, but the one of which parts remain today was created in 1758 under the architect, Mangun di Pura. The gardens served multiple purposes: they were places where the royal families could retire from public life; they provided chambers for meditation; they yielded fruits and flowers for rituals; and, most importantly, they symbolized the royal power of the king. Taman Sari comprises a series of courtyards aligned on an east–west axis, some of which are octagonal. North of the axis is an artificial island which could be reached either by boat or by a subterranean tunnel. Next to this is an enigmatic round tower, several storeys of which are under water. The function of this structure remains a mystery. It may have been connected with rituals through which the sultans communed with the goddess of the South Sea; legends and contemporary belief assert that she confers sovereignty on the ruling houses of Java.

Figure 70.1. Taman Sari, Yogyakarta, Java, Indonesia (1758). This gateway stands at the entrance to the 18th-century garden of the sultans of Yogyakarta. It combines elements of traditional architecture, such as the wings symbolizing the mythical bird Garuda (and indirectly representing the elixir of immortality), and a representation of Mount Meru, where the palaces of the gods stood. JOHN ELK III / GETTY IMAGES.

In Australia, in notable contrast, the common local landholding unit was the patriclan (a clan in which members are linked to a common ancestor through the male line), which held the religious, hunting and food-collecting rights within its estate. Local groups were organized into larger regional groupings whose members intermarried according to strict rules, and shared some common aspects of language, social organization, beliefs and customs. About 300 different languages were spoken on the continent, many of which had numerous dialects. Each language group had its own territory comprising a cultural landscape of many named places (campsites, water sources, resource sites, dance grounds, dispute resolution grounds, ceremonial sites, sacred sites). Religion, social organization, geography and language were four of the more elaborated cognitive domains of Australian Aboriginal cultures. People were nomadic, moving between a number of contiguous ecological systems to effectively exploit seasonal foods and resources. However, the territorial range of Aboriginal groups was restricted by various forms of territorial rules as well as by the need to maintain local religious obligations in one's own estate. For most of the seasonal year, small local groups or bands were scattered throughout their respective regions of Australia, engaged in food gathering. People were conscious of their place within their own local territory, intimate with its geography and spiritually attached to its sacred sites and sacred histories. Bands formed camps, occupied from a single day to several seasons. Large-scale gatherings (hundreds to thousands) composed of people from several tribes or language groups also occurred at the more reliable water sources in good food seasons for periods of weeks. Here, spatial settlement patterning and behavioural rules were at their most complex. Feasting, trading, celebrations, ceremonies, initiations, marriage arrangements, dispute resolutions and forms of emotional reconciliation occurred in these camps.

Among the many scattered islands of Oceania, due to the relatively compressed period in which their settlement occurred, the diverse peoples from across the Oceanic region nonetheless shared a common 'Austronesian' language and culture, with local variants being an indicator of relative isolation and/or environmental influences. As the various Pacific peoples became accustomed to the sustenance and materials that their new landscapes had to offer, their populations grew, became more hierarchical and established a surplus economy that produced elaborate architecture, arts and sometimes maritime tribute systems supported by outlying island communities. Dynasties of leaders rose and fell according to changing resource availability, spiritual preferences and conflict, particularly as larger populations

competed over land. European colonizing settlers and their tools, materials, weapons and art and architectural concepts, arriving from the sixteenth century onwards, were often co-opted into indigenous social systems, helping some groups to increase their regional power and influence.

Architecture

During this period, the basic building materials of Southeast Asia were brick and stone (laid in mainly ashlar (straight-hewn) fashion, without mortar, but sometimes with a binder of lime and organic material), and wood. The exteriors of some stone and brick structures were faced with lime plaster or stucco, which was often painted. Very little of this paint has survived the tropical climate. Clay tiles were used for roofs of some structures, and in Cambodia they were sometimes glazed. The ridges of some roofs, especially in north-central Java, were decorated with abstract clay sculptures. Most roofs were made of coconut palm fronds or a kind of rough grass. Wooden structures were held together by joinery such as mortise-and-tenon construction; metal nails were not used. In some areas, houses were held together using lashings made from the fibre of the sugar palm.

In the fifteenth century, a few stone temples were built in Java for religious purposes. The main deities worshipped in them included Bhima and Garuda, two figures from Hindu mythology, who were not centres of devotional cults in India or early Southeast Asia. Their forms are derived from prehistoric terraced shrines, not from India. Royal palaces in Southeast Asia were built of perishable materials, often raised on pillars, which provided more salubrious interior conditions than stone or brick. Palaces comprised complexes of lightly built structures, grouped in courtyards and surrounded by walls. Several palace complexes in Thailand and Java preserve features from the late eighteenth century. Palace gardens were important symbols of royalty. They were walled complexes with sophisticated water features including pools and fountains. They often contained replicas of Mount Meru – sacred alike in Hindu, Jain and Buddhist cosmologies – sometimes constructed in rockery style, as derived from China. Chinese and Dutch ceramic plates and tiles were sometimes used to decorate their walls and gates. In Islamic areas, the earliest mosques had multi-tiered roofs similar to religious structures depicted in pre-Islamic relief carvings. Their roofs were supported on four huge wooden pillars.

Stupas were highly significant centres for the observance of the Buddhist faith, and assumed many different forms in mainland Southeast Asia. Elite members of society sometimes sought merit by encasing older stupas in larger structures with more elaborate mouldings. Some of these projects were commemorated in mural paintings showing the different periods and layers of construction.

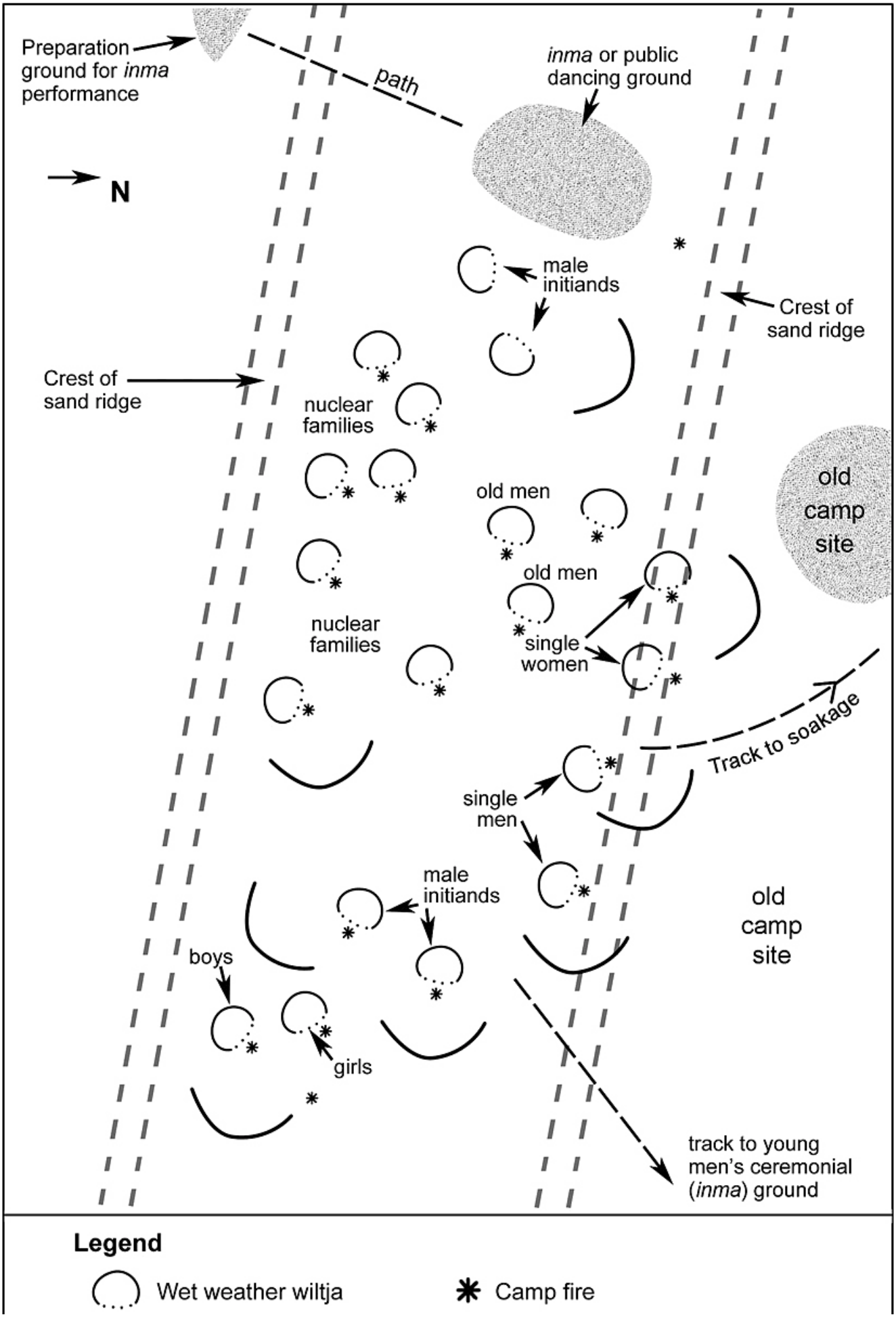
Carved and painted wood was also a major construction material in Southeast Asian countries. Some monasteries built in northern Myanmar and Thailand where the climate is cooler and drier still have portions which probably date from the eighteenth century. Teak wood used to build them is highly resistant to decay. In addition to stupas, the monasteries contained libraries and ordination halls, the walls of which were decorated with mural paintings depicting Buddhist stories. They also portray scenes from daily life, and can be studied to recover details of buildings that no longer exist.

Early inscriptions mention collaboration between two types of building specialists: the architect in the sense of the person who understands the physics and techniques of erecting structures, and the ritual specialist who understands the philosophical and religious symbolism and rituals considered necessary to give the structure the necessary spiritual qualities. Special rituals, some of which were derived from ancient Indian texts, were conducted to consecrate the temples and included deposits of various types placed under the foundations. In early times, elite members of society would allocate agricultural lands, and often dependant labourers, to build and maintain the religious establishments. These lands and their occupants would be exempted from other taxes in return for providing services and other requirements to the temples, including food, flowers and incense for offerings. In Java, the Sanskrit word *sima* was used to refer to these tax-free zones. In Thailand, the related Thai word *sema* refers to boundary stones placed around the ordination hall (*ubosoth* or *bot*) to indicate the sacred area that has been ritually purified so that the ceremonies in them can proceed undisturbed by evil forces.

In the eighteenth century, much of Java came under the influence of the Netherlands East India Company. New architectural forms introduced at this time included European-style forts. In coastal cities where Europeans and foreign merchants congregated, rows of linked buildings were erected with shops on the ground floor and residential quarters above. The upper floors of these often projected over the pedestrian walkway in front, creating protection from the elements. This style of building persisted into the twentieth century, and is recognized as symbolizing a Sino-Southeast Asian urban lifestyle.

Looking now at Australia during this period, the dominant category of architecture was domestic, comprising a considerable range of shelter types used in residential camps. Campsite occupation – spanning from a single day to several months, and with largely impermanent architecture – was often misread by the early European colonists as confirmation of a lack of attachment to place. However, Aboriginal bands occupied a series of camps in a regular seasonal pattern of rotation. Most tribal or language groups employed a repertoire of up to seven or eight shelter types,

from which one was selected for construction under particular circumstances of prevailing weather, local availability of raw materials, planned purpose, length of stay, and size and composition of the group to be accommodated. Each shelter type had a regional distribution, with particular styles being largely a function of the available structural and cladding materials and the dominant climatic influences.



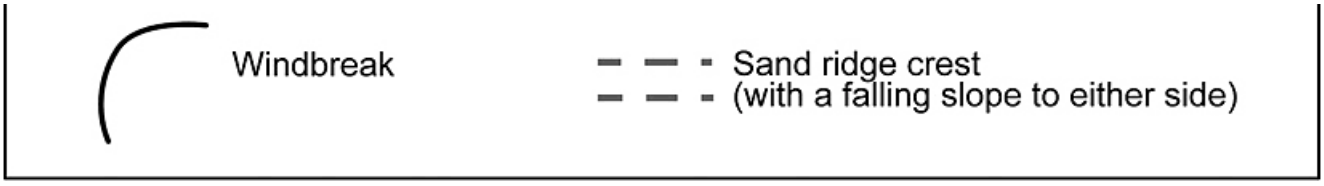


Figure 70.2. Layout plan of a ceremonial camp of the Antakarinja people, near Ooldea Soak, South Australia, Australia. The camp is sited in a small valley in a desert between two parallel sand ridges, and includes respective domiciliary groups of boys and girls aged about 9 to 16 years. This plan is adapted from that by Ronald Berndt, who recorded the camp in 1939. PAUL MEMMOTT AFTER RONALD BERNT (1939).

The modesty of Aboriginal camp architecture in Australia was supplemented by a highly structured use of space, as well as a complex geography of place and dwellings (figs 70.2, 70.3, 70.13). Camp size varied from a single family up to several hundred or more. The complex logistics of spatial organization were generated and regulated by cultural belief systems, manifesting as behavioural customs and moral codes. For example, in a typical larger-sized settlement, separate shelters were commonly used for diurnal and nocturnal activities. During the day, men and women congregated apart, while nuclear families resided together at night. Unmarried men and women slept separately in their respective domestic groups. These groups were spatially segmented into clusters usually based on class identity and tribal or language group identity as well as close family relationships (fig. 70.14). Nevertheless, the clusters or groups were usually close enough for visual and aural communication. Kinship rules forbade specific relatives from camping near one another, generating unique types of socio-spatial behaviour. Movements around camps were also restricted by prescribed avoidance behaviours and gender-exclusive ceremonial grounds. In the rainforest region of northeast Australia, households strayed from the norms of most of the continent, and were at times made up of multiple nuclear families, each forming an extended group within a large domed shelter (see Rainforest Dome Architecture). This facilitated social interaction inside the house during the persistent rainy periods.

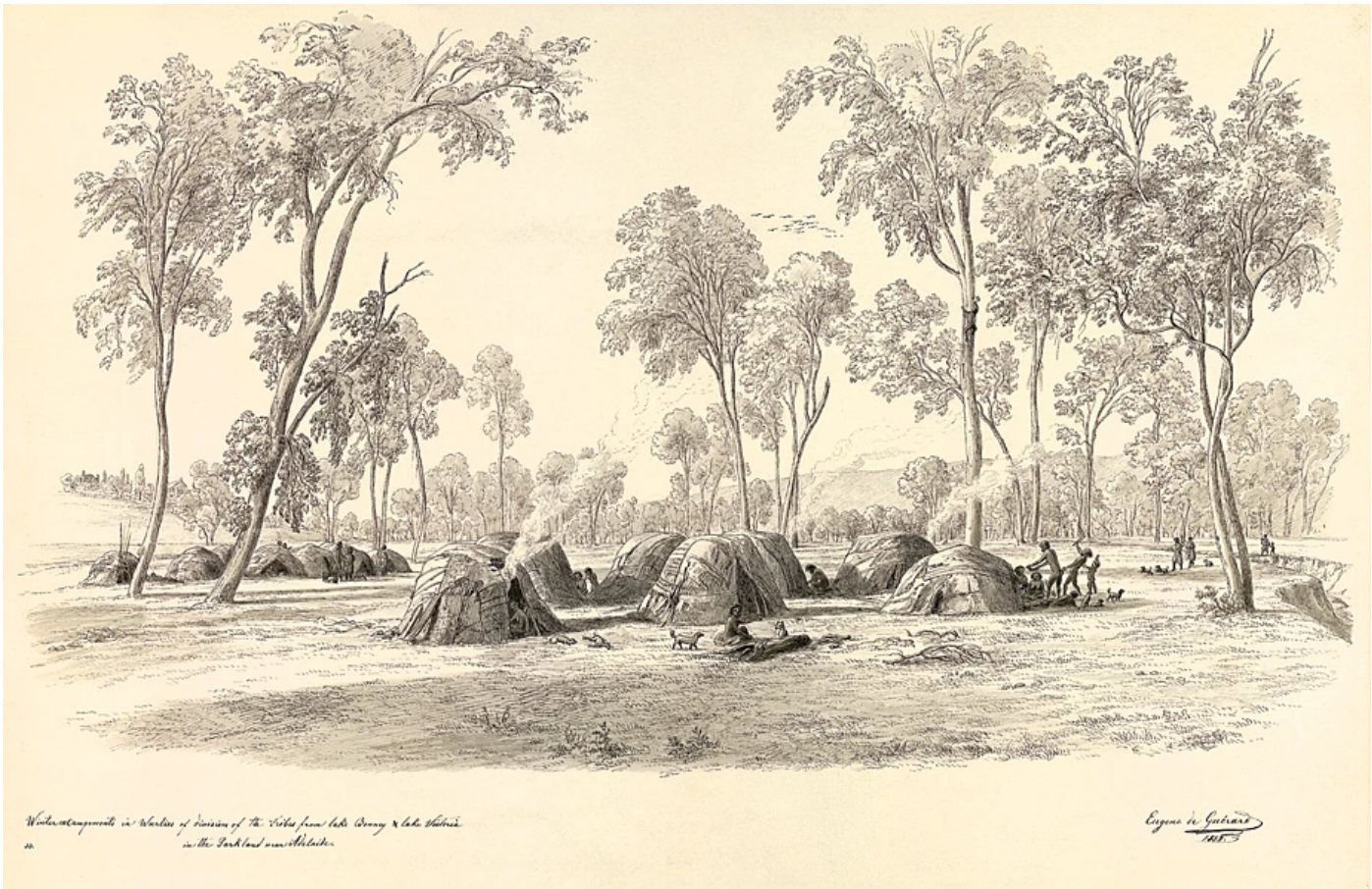


Figure 70.3. Painting of a typical Aboriginal winter camp in southern Australia. This 1858 depiction by Eugene Von Guerard shows a camp occupied by two groups of Lower Murray River peoples, with well-constructed domes and internal fires to protect against cold temperatures, wind and rain in a wooded, temperate southern part of Australia – as witnessed by early British colonists when they arrived. NATIONAL GALLERY OF VICTORIA, MELBOURNE FELTON BEQUEST, 1960 (644-5).

Rainforest Dome Architecture

The rainforest dome architecture of northeast Australia was clad with layers of thatched grass, palm leaves or bark, and was warmer than the types of shelters used in surrounding regions. The presence of the 'rotang lawyer cane' and other pliable saplings in these rainforest areas generated curvilinear structures. High rainfall was a second stylistic determinant: one observer (the Swedish ethnographer Eric Mjöberg) remarked, in 1925, that the region had 'the best huts of the continent, regarding quality as well as form'. A third factor was an environment rich and diverse in its food sources, especially nutritious and storable tree nuts. The architectural repertoire included circular and oval-based domes, larger long-span domes and complex interconnected dome forms with multiple entrances.

Due to the necessity for protection from high rainfall, enduring and permanent houses were occupied for long periods, possibly an entire seasonal cycle, at both seasonal and annual base camps located in cleared 'pockets' in the rainforest, where *corroborees* (Aboriginal public dances held on a space with soft soil and organized as a controlled setting) and martial tournaments to settle grievances were held. Lengthy occupation periods resulted in structures sufficiently high for people to stand in, facilitating ease of movement and activity during daytime and night-time use – in contrast to much of the continent, where shelters were only for sleeping and storage and hence considerably lower, at only 1.2 to 1.5 metres (4 to 5 feet).

Although mobile hunter-gatherer lifestyles in Australia resulted in relatively impermanent architecture in many regions, for those localities where there were plentiful food resources (kangaroos, dugong, cycad palm nuts, swamp corms, water lilies, large fish schools), more permanent villages evolved, often seasonally occupied. Inclement seasonal weather – such as heavy rains – led to the development of more elaborate forms of architecture in such villages. For example, on the southwest Tasmanian coast, which is subject to regular cold squally fronts coming off the ocean, winter domes were grass-thatched, lined internally with paper bark, up to 3.6 metres (12 feet) in diameter and 2.4 metres (8 feet) high, with a small entrance opening. Accompanying such settlement was the 'intensification' of economic production through changes or adjustments in environmental technology. These were, in turn, responses to changes in the need for resources, such as the motivation to sustain large-scale gatherings for ceremony and other social purposes. The new land and resource management practices included 'firestick farming' (controlled seasonal burning to manage the ecological balance of resource-producing plant communities), construction of elaborate systems of coastal and riverine stone-wall fish traps and water management in swamps. Increased production led to resource trade, sharing, feasting, food storage and sedentary or semi-sedentary lifestyles, as well as more permanent architecture and villages.

The preference in pleasant weather was for open living with minimal structures. A widespread continental type for cold, windy weather was the grass or foliage windbreak with warming fires. Shade structures were widely used, constructed by implanting leafy boughs into the ground, or erecting a horizontal roof structure, or making a lean-to with a ridgepole. A domed shade structure was built throughout the deserts by implanting the stems of bushy limbs in a roughly circular floor plan, curving inwards to form a thick roof. This shelter not only provided shade but also facilitated outward vision and allowed breezes through, while filtering out flies.

Low enclosed shelters offered protection in those parts of the continent where rain fell for only several days or weeks. Shelter heights here were consistently 1.2 to 1.5 metres (4 to 5 feet), and intended for lying or sitting postures. Wider-span structures were also low and used for large domestic groups (single men, single women, multiple family groups). Structural forms reflected the materials available for their construction and included domes, rectilinear or cubic huts, and cones with or without central support posts (figs 70.4, 70.13). In the different cultural regions, technologies included stone-wall construction, folded bark sheets, grass thatching and plaiting, split bamboo, woven *pandanus* and coconut palm leaf, clay and mud plastering, excavated floors, earth platforms, sand-weighted roofs, split cane ties and the weaving of foliage between wall rails.

Figure 70.4. Photograph taken in 1896 of a Central Arrernte polygynous family, Northern Territory, Australia. This image, shot by ethnographers Walter Baldwin Spencer and Frances James Gillen, shows a man with two wives and their children in front of a domed shelter of heavy limbs and grass cladding. The man and boy are making spears, while the women are grinding seeds to make cakes. MUSEUMS VICTORIA.

Domes were constructed up to 3.6 metres (12 feet) in diameter to suit the size of the occupant group. In the arid interior a framework of heavy, rigid, curved boughs was commonly employed. On the east coast, frames of saplings were lightweight for both dome and cone forms. Claddings used on the eastern and northern coastal areas comprised a range of barks, tussock grasses, reeds and palm leaves. Common interior cladding materials were hummock and tussock grasses, sometimes with a coating of sand, mud or clay.

As for Oceania, by 1400, the building designers across the southern Pacific islands had developed forms of architecture that consolidated authority, accommodated lifestyles and enabled hunting, gathering and gardening. The new tools, materials and design concepts later introduced by European explorers and traders changed the construction, formalism and aesthetics of Pacific architecture. In the interval between, monumental centres of power were being built independently across Oceania. Early among them is the monumental Micronesian city of Nan Madol (fig. 70.5), on the coast of Pohnpei, which comprises ninety-two artificial islets created to accommodate basalt-built houses and tombs, and connected by a series of channels. Nan Madol was the seat of a lineage of powerful rulers until new leadership on the mainland drew its population away in the early seventeenth century. Remarkable megalithic structures were built elsewhere in Micronesia, such as the seventeenth-century city of Lelu on Kosrae, consisting of 100 stone-walled compounds erected to support dynastic paramountcy, and the large stone *latte* columns that held aloft clan houses on many sites in the Mariana Islands. In Melanesia, a fascinating type was the tall traditional 'Grand Hut' of the Kanak chiefs (fig. 70.6) on New Caledonia, which was circular with an earthen base, with central post and sunken hearth, and featured a dramatically high conical roof that was thatched with plant materials. On top was placed an exquisitely carved timber roof finial. This finial symbolically linked ancestors in the world of the dead, via the chief, with the clan in the land of the living. Large stone and earth constructions were also being built independently across Polynesia. Lapaha was already the centre of the Tongan maritime empire, and a massive coastal reclamation project created a new harbour to receive tributes to the Tu'i Tonga, a dynastic paramount leadership that by the fifteenth century was burying its divine line of chiefs in large earth mounds, sometimes terraced and faced with stone, called *langi*.

Figure 70.5. Mortuary enclosure of Nan Dauwas, Nan Madol, Pohnpei, Caroline Islands, Micronesia (c. 1400–1700). The coursework walls are made of basalt and were quarried on the mainland; they were then brought to the complex on rafts, and lifted into place with ropes and levers. This photograph is of the entrance to the mortuary enclosure. TIM ROCK / LONELY PLANET-GETTY IMAGES / GETTY IMAGES.

Figure 70.6. Kanak 'Grand Hut', Nouméa, New Caledonia, Melanesia (museum reconstruction). This typical Kanak 'Grand Hut' has been recreated in the Jean-Marie Tjibaou Cultural Centre in Nouméa, as designed by Renzo Piano (see Chapter 99). It displays the remarkable features such as the high conical roof, ornately finial at the peak, and richly carved entrance door posts. ANDRE SEALE / ALAMY STOCK PHOTO.

To the east, other Polynesian people built *marae* (also known as *malae, me'ae, tohua, heiau* and *ahu*) for oratorial and ceremonial open-air forums as raised stone platforms or cleared ground, Taputapuatea Marae (Key Buildings) being one example. Important *marae* in other parts of Polynesia were typically differentiated from those that were less prestigious by their large stone altars, ziggurats and walls, although all share the same key characteristics of a cleared space with designated speaking positions. Continuing architectural and ritual practices demonstrate that the open space created by the architectural elements surrounding the *marae* was as important and *tapu* (sacred) as the elements themselves. The purpose of ceremony and oratory on the *marae* is to reinforce the relationships between participants and deities by supporting and filling the space with words and performance. Thus the *marae*, much like the Pacific Ocean, should not be considered an empty space, but a place of spiritual potential that is continuously being refashioned through architecture and the ritual activities of communities. In the Society Islands, 'god houses' were constructed to accommodate deity figurines, whose fibre and feather coverings would be periodically unwrapped and rewrapped in *marae* rituals that reinforced the connections between the earthly and divine. Elaborate *marae* were constructed to support the highly stratified societies at the extreme edges of Polynesia, such as the *heiau* of Hawaii (fig. 70.7), and the *ahu* of Rapanui (Easter Island or Isla de Pascua) with their iconic *moai* statues, as at Ahu Tongariki (Key Buildings, fig. 70.8). Perhaps the most significant of Oceania's earth constructions were the terraced and fortified *pa* that 'tattooed' the surfaces of Aotearoa's (New Zealand's) many volcanic cones and headlands.

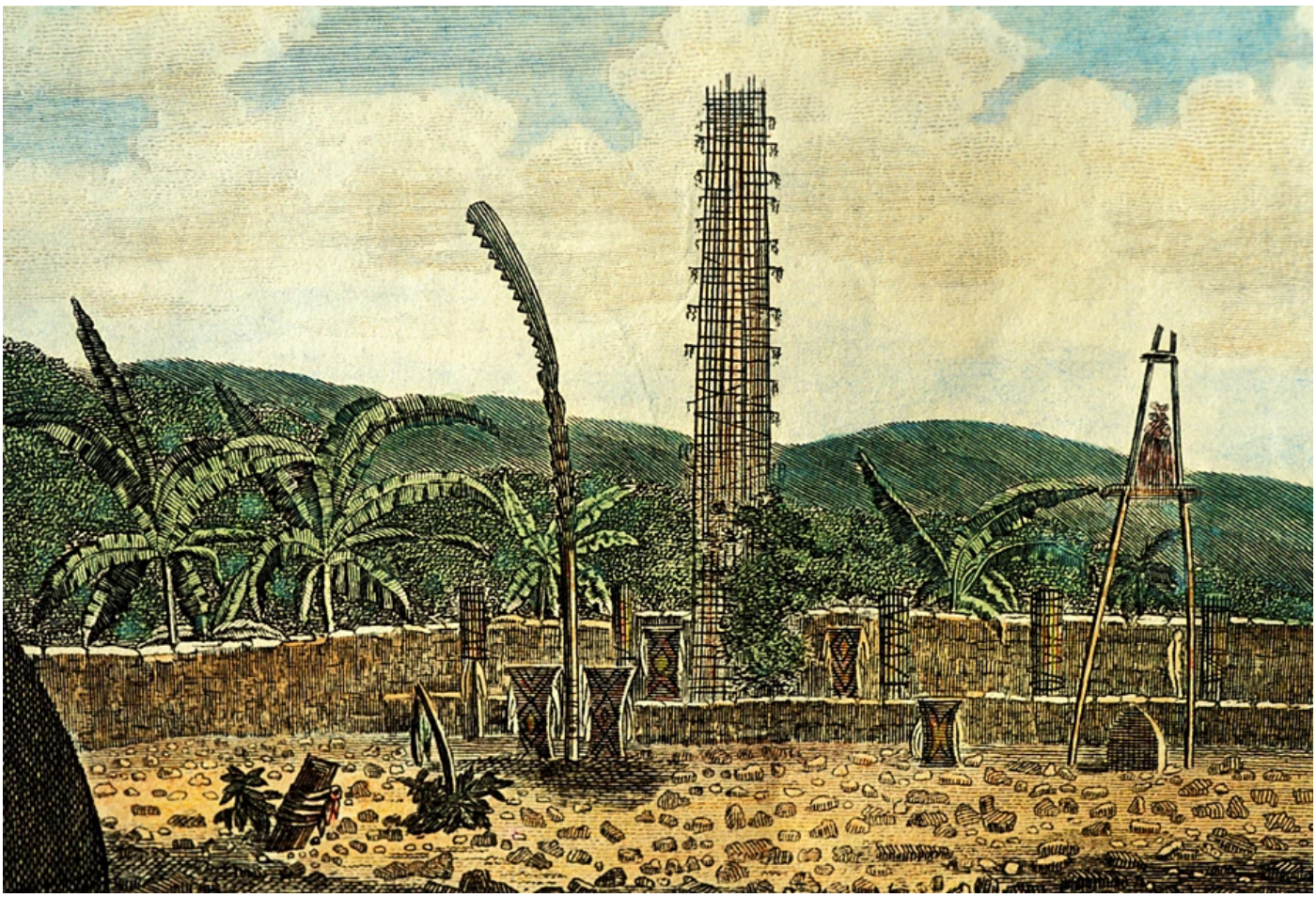


Figure 70.7. John Webber, *A 'Morai' at Atooi (A 'Heiau' at Waimea*; c. 1774), Hawaii, USA. A number of *heiau* were built along the Waimea River, and this one shown in this 18th-century engraving may have been dedicated to the Hawaiian god of war, Ku. A 'god-house', which would have contained deity figurines, can be seen on the left. HAWAIIAN LEGACY ARCHIVE / GETTY IMAGES.

Figure 70.8. *Moai* at Ahu Tongariki, Rapanui (also known as Easter Island or Isla de Pascua), Chile (c. 1300–1500). Ahu Tongiriki was the principle *ahu* for the Hotu Iti alliance, with a row of *moai* heads on a stone platform. Partially destroyed during the social changes that swept Rapanui in the 16th century, the *ahu* was reconstructed by archaeologists in the 1990s. HAL BERAL / GETTY IMAGES.

Oceanic architecture owes much to Pacific maritime technology: wooden elements, fibre fastenings, customary meanings and decorations are common to both (see Boats and Buildings). Pacific buildings have in common a 'top-down' construction process, with a timber ridgepole raised first to create a gable roof (as opposed to the Western mode of building up from ground level). The gable was attenuated differently in different Austronesian regions (as it still is today), with variations being a response to landscape, climate, available materials, social connections with other communities and other cultural factors. The *tambaran* of Papua New Guinea has a ridge that extends beyond the footprint of the building, reaching out to the courtyard in front and fields behind; on the Indonesian islands of Sulawesi and Sumatra, one ridge is propped up, whereas in Bali and Kiribati it is extended down to have hipped ends; by shortening the ridgepole and curving the end eaves, the roofs of Samoan *fale tele* have almost hemispherical profiles (fig. 70.9); and New Zealand Māori developed a front porch under the ridge for their *whare* to provide a moderating zone between smoky interiors and the cooler external climate. The elaborately lashed and painted rafter, purlin and tie structures that supported these thatched roofs were associated with ancestors and deities, probably following the same principle employed in megalithic structures, namely that height was associated with social and spiritual leadership. Closer to the floor, columns were often associated with recent or present-day leaders and indicated their internal seating positions.

Figure 70.9. Photograph taken between 1890 and 1910 in Faletele, Samoa, Polynesia. This old photograph, by Thomas Andrew, shows the temporary scaffolding that was built on the inside of the structure, from which the intricate lattice of curved purlins and rafters were lashed into place before the thatching was secured. PHOTO BY THOMAS ANDREW, MUSEUM OF NEW ZEALAND TE PAPA (C.001446).

Boats and Buildings

Shared ancestral stories in Oceania recount that houses were upside-down sea vessels (and vice versa), and also recall debates as to which structure should be built first. In Samoa, the narratives record that it was through constructing buildings first that the knowledge to lash together canoe elements with sennit (coconut fibre) was developed. At Mangareva, in the Tuamotu Islands, Rata is remembered as rescuing his parents from the sea by pulling the roof off his grandparents' house and using it as a boat, reinstating it as a roof on his return to shore. Due to rising sea levels covering ancient sites, we know little of the timber and fibre structures that were built on the shores of island communities before the eighteenth century; however, in New Zealand the connection is still evident in surviving Māori watercraft and Māori buildings made from the end of that period. The openwork spirals of carved *tauihu* (war canoe prows) are also used on *pare* (door lintels) of the Māori meeting house. Indeed, walking under *pare* is regarded with the same spiritual trepidation as boarding a *waka taua* (carved war canoe). Even the *kowhaiwhai* (scroll patterns) painted on eighteenth-century Māori *pataka* storehouses (fig. 70.15) and meeting houses from the mid-nineteenth century onwards have their origins in the *kowhaiwhai* of much earlier *hoe* (canoe paddles).

Key Buildings

Ahu Tongariki, Rapanui (Easter Island or Isla de Pascua), Chile (c. 1000–1500)

Ahu Tongariki is the largest ceremonial complex on Rapanui (also known as Easter Island or Isla de Pascua). *Ahu* were the ceremonial centres of Rapanui life between 1000 and 1500. Like other Polynesian *marae*, these *ahu* were associated with communities united by common descent lines. Tongariki, like most *ahu*, was built near the coast and consisted of a 220-metre-long (720-foot) elevated stone terrace running parallel with the sea on which were raised towering stone deity figures, known as *moai*, which faced inland (fig. 70.8). A robust 4-metre-high (13-foot) retaining wall protected the *ahu*

complex from the weather on its seaward side, while a stone ramp led down to a flattened rectangular court on its other side, beyond which were communal dwellings. The world-famous *moai*, on the island, up to 9 metres (30 feet) in height, were crafted from the soft volcanic rock where they were quarried, before being transported on rolling logs to their *ahu* to be raised, capped with red scoria *pukao* 'topknots' and enlivened with the insertion of shell eyes. These were – and, in their reconstructed (1992–96) state, remain – imposing statues, their *ahu* platforms elevating them up to a further 7 metres (23 feet) in height.

Ahu construction attests to the competitive relationship between Rapanui communities. A total of 245 *ahu* were built, and over time they increased in size and their *moai* became more refined. Around the sixteenth century, social changes ended *ahu* construction and many – including Ahu Tongariki – were attacked by a new ruling elite, the *matato'a*, who demonstrated their political ascendancy by toppling many *moai*, thus removing their architectural authority. These social changes were not caused by overuse of the island's resources or by European diseases and influence, but were the consequence of the natural limitations of Rapanui's ecology to support a growing population. Social, spiritual and economic development had become constrained, and old hierarchies challenged and then replaced, as demonstrated by the desecration of *ahu* and *moai*.

Taputapuatea Marae, Opoa, Ra'iatea, Society Islands, Polynesia (c. 1250)

Spiritually and politically, Taputapuatea, at Opoa on the island of Ra'iatea, was one of the most important *marae* in the Society Islands, as part of a dispersed archipelago in the mid-Pacific known today as French Polynesia. The *marae* is a central community forecourt and forum space, and has been a persistent and unifying spatial feature of Polynesian communities over the last millennium. It has activated societies as the place created for communing with deities, sharing harvests and tributes, and for the delivery of formal oratory. Built as early as the thirteenth century, and later enlarged, by the late seventeenth century Taputapuatea was dedicated to the supreme god of earth and air, 'Oro, who was believed to have been born at Opua. An image of 'Oro was kept in a temple on the *marae* and attended by priests. The historical status of Taputapuatea is still evident in the large elevated stone forecourt.

Shwedagon Stupa, Yangon, Myanmar (formerly Burma) (fourteenth century or earlier, with last major expansion in 1774)

According to legend, the Buddha gave eight hairs from his head to merchant brothers at Bodh Gaya. On the way home, two of them were stolen by a *naga* (a mythical serpent). The brothers enshrined the remaining six on a hill under a stupa in Okkalapa (an old name for Yangon). The oldest inscriptions found on this site – in Mon, Burmese and Pali – were carved in the fifteenth century. In 1362, a king raised the stupa's height to 22 metres (72 feet). In about 1472, Queen Shinsawbu of Bago gave her weight in gold to gild the structure and terrace the hill. Later kings donated more gold. In 1774, King Hsinbyushin increased the height of the monument to its present height of 99 metres (325 feet). The stupa (fig. 70.10) stands on a square base with sides 47 metres (154 feet) long, surrounded by sixty-four smaller stupas. The pinnacle is decorated with a special gold object called a *hti* symbolizing a royal umbrella, topped by a diamond orb. The structure is still used as a place of worship.

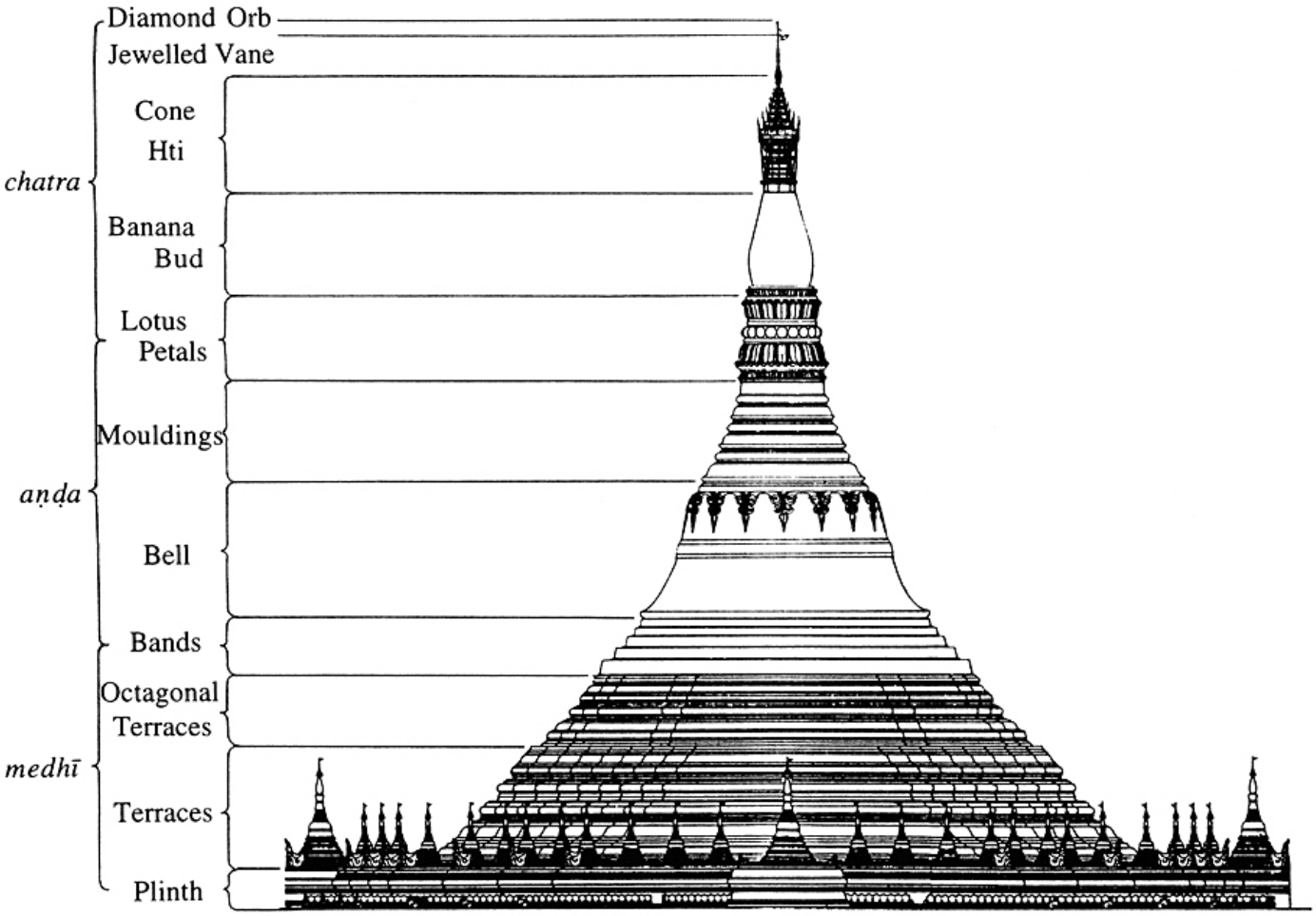


Figure 70.10. Shwedagon Stupa, Yangon, Myanmar (14th century or earlier, with last major expansion in 1774). More like a structure, this huge stupa was built in Yangon to enshrine relics of Buddha, in this case six hairs. It was enlarged several times, most recently in 1774. Smaller buildings, such as halls for Buddha images around the main structure, have been added over the last 200 years. DAIGORO CHIHARA, HINDU-BUDDHIST ARCHITECTURE IN SOUTHEAST ASIA (TOKYO: KAJIMA INSTITUTE PUBLISHING, 1982).

Candi Sukuh, Mount Lawu, Java, Indonesia (early fifteenth century)

The word *candi* in modern Indonesia is applied to any architectural remnant from the Pre-Islamic period, including non-religious buildings such as bathing places and gateways as well as temples (see Chapter 54). It probably derives from the Sanskrit word *caitya*, meaning a place to keep a relic. Candi Sukuh (fig. 70.11) is built on three terraces on the western slope of Mount Lawu at an elevation of 900 metres (3,000 feet). The oldest inscription on the site was carved in 1437. At the lower end of the complex is a gateway made of stone, on the floor of which is a carving of a penis and vulva. On the upper terrace is a structure shaped like a truncated stepped pyramid; a staircase inside the monument leads to the flat top where a large *linga* (symbol of the Hindu deity Shiva) once stood. Statues of Garuda (huge mythical birds with human qualities) and gigantic tortoises in the courtyard suggest that the complex was partly dedicated to the attempt to produce *amrita*, the elixir of immortality. The deity Bhima – one of the five Pandawa brothers in the sacred Hindu text, *Mahabharata* – is also depicted in a relief that portrays him as a blacksmith.

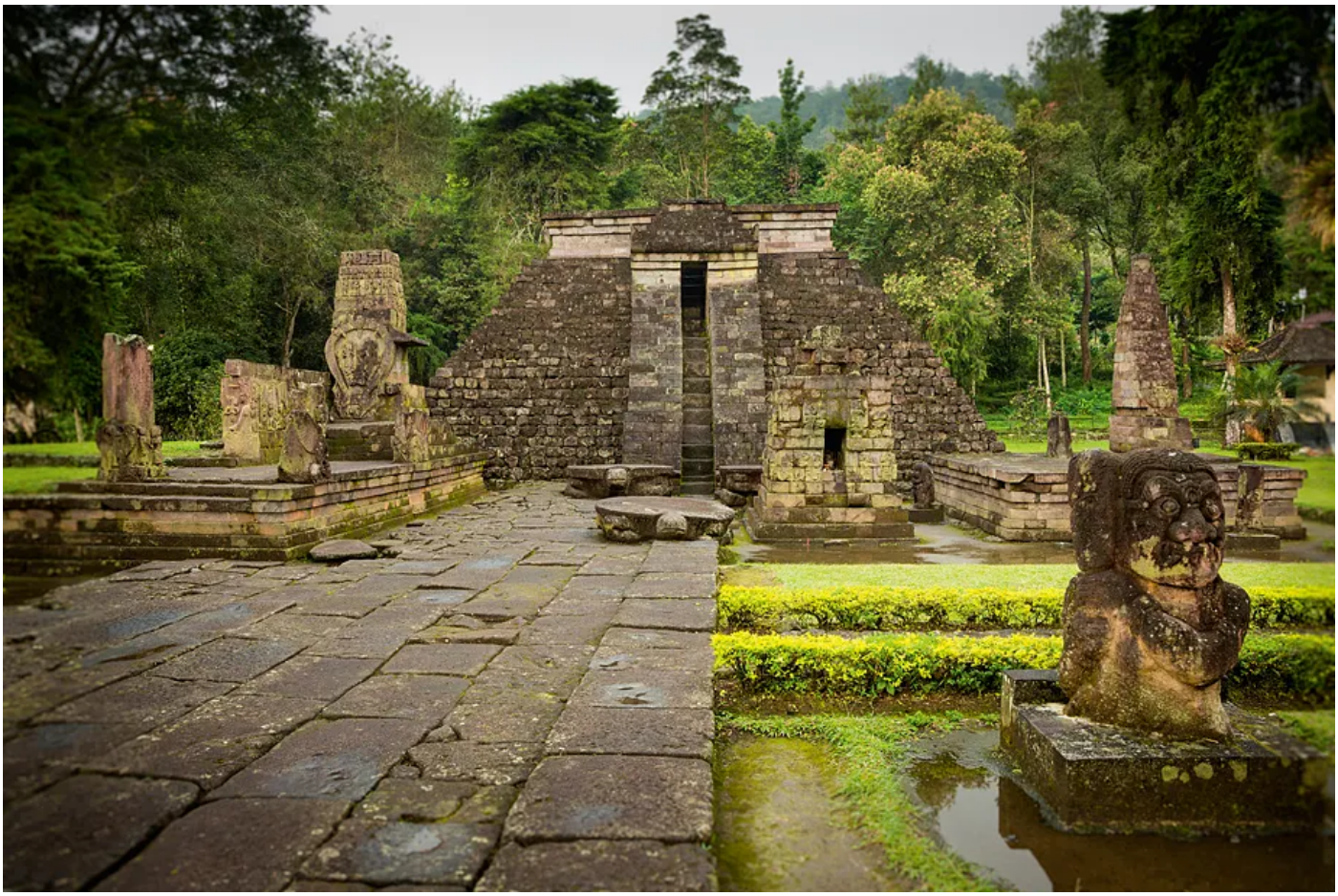


Figure 70.11. Candi Sukuh, Mount Lawu, Java, Indonesia (early 15th century). As a syncretic mountain shrine, this *candi* combines elements of Hinduism and Javanese traditional beliefs. Deities depicted here include Bhima, Garuda and a large *lingga* (phallus) representing Shiva. The site on Mount Lawu consists of three terraces resembling prehistoric sites of worship: the central, truncated stepped pyramid is atypical. DE WINTER – VAN ROSSEM / HEMIS.FR / GETTY IMAGES.

Mosque of Demak, Java (probably 1478)

Demak was the first major Islamic kingdom on Java. According to tradition, it was founded in 1478 by Raden Patah, ruler of the port of Bintara. He was said to be the son of a Javanese prince and a Chinese princess. He ruled until 1518; his existence is verified by Portuguese sources. The main entrance to this mosque (fig. 70.12), which remains in use for worship today, is on the east, through a large roofed veranda called a *serambi*. On the west side of the veranda, the exterior wall of the main prayer room of the mosque (*masjid* in Indonesian, from the Arabic) is decorated with tiles made of white porcelain decorated with cobalt-blue designs typical of fifteenth-century Vietnamese ceramics. The central part of the three-tiered roof is supported on four thick pillars. One of these is made from splinters of wood held together with metal bands. In Indonesian tradition, the northeast column of a house is a channel through which the power of the ancestors is brought down to earth. The mihrab prayer niche on the western wall of the mosque indicates the direction of Mecca, towards which one should face when praying. As in other older Indonesian mosques, it takes the form of a cave. On the back wall of this recess is another Vietnamese wall tile in the shape of a tortoise.

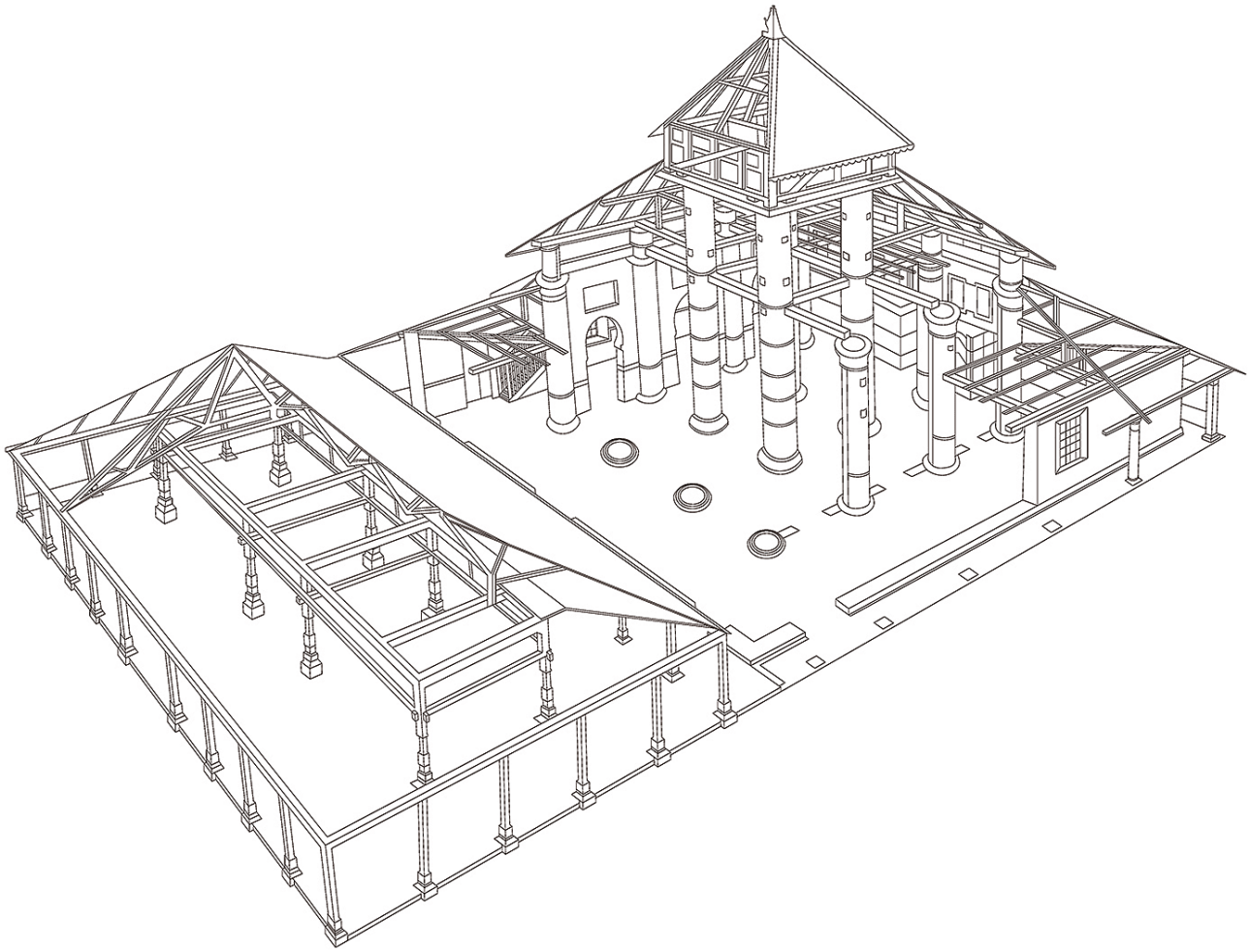
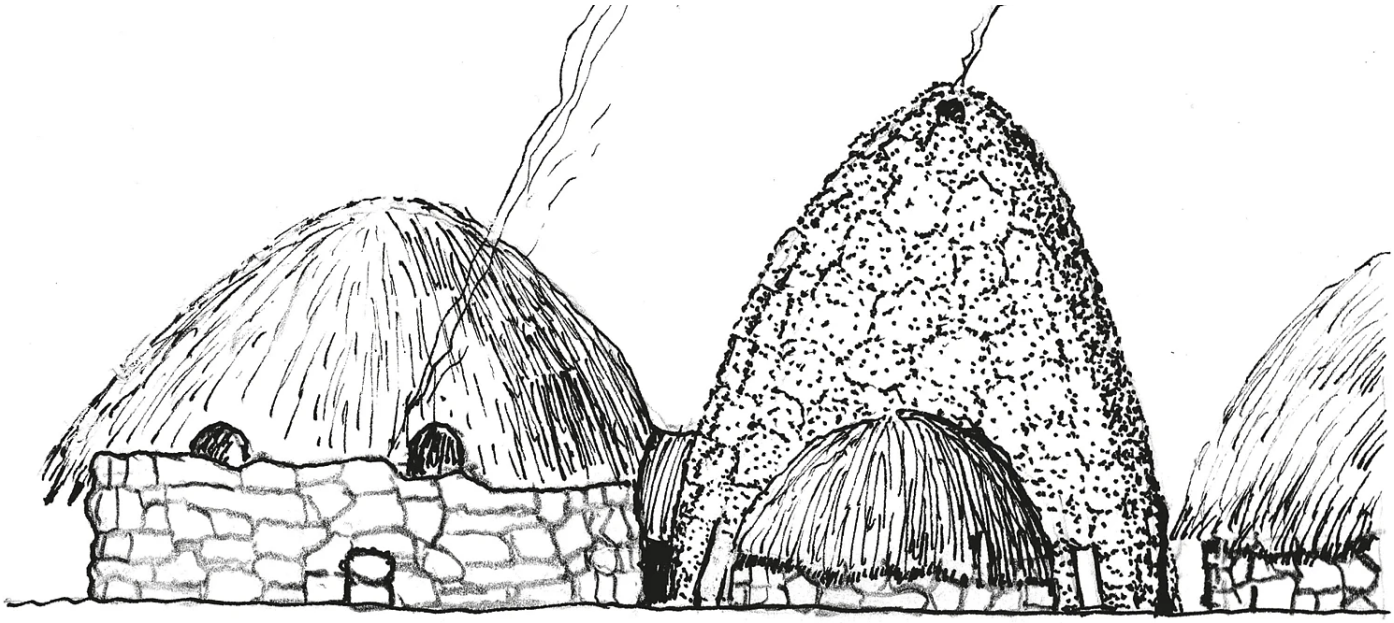


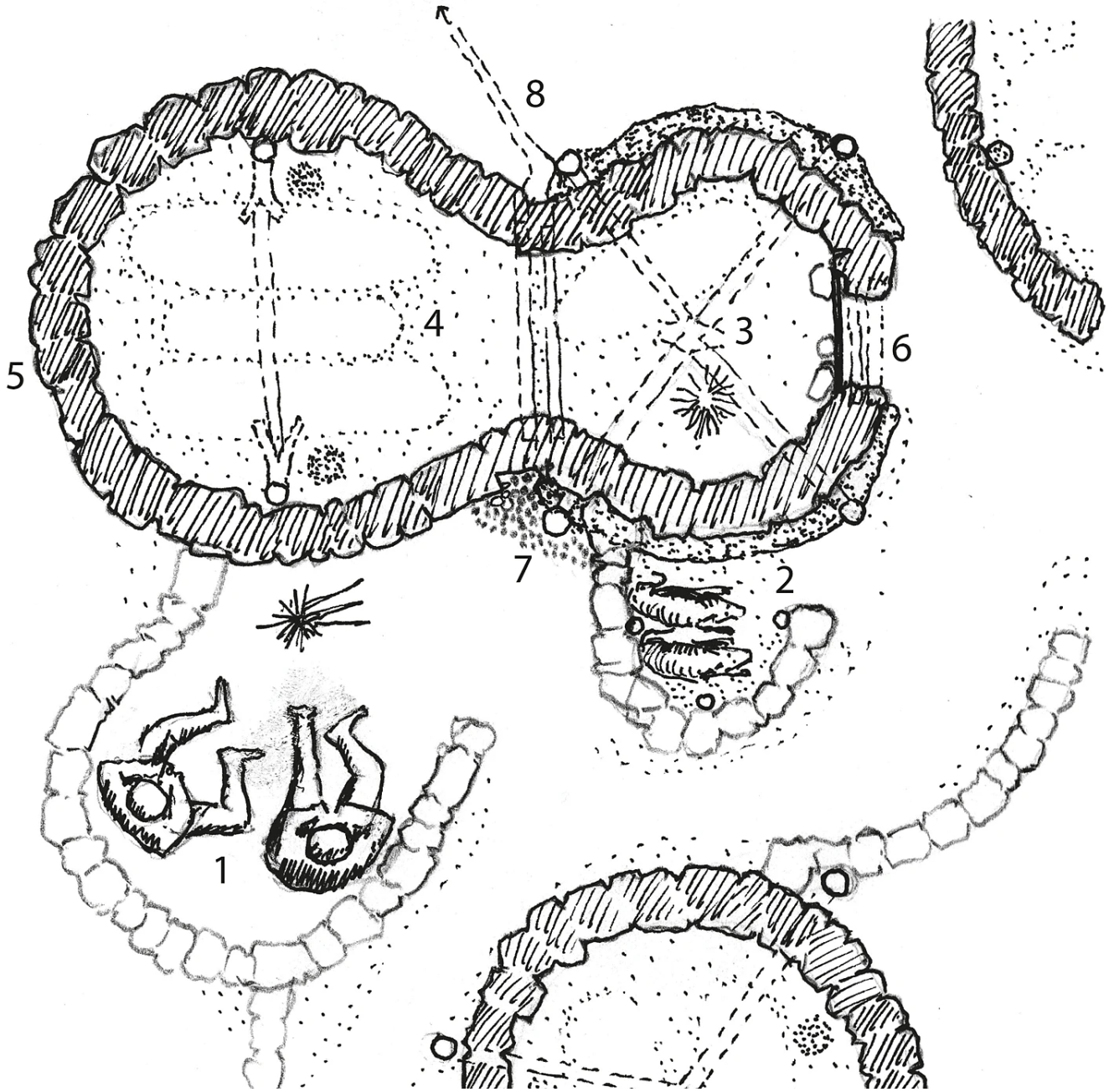
Figure 70.12. Masjid Demak, Java, Indonesia (probably 1478). This 15th-century complex consists of a rectangular veranda or *serambi* and a square prayer hall. The three-tiered prayer hall roof, supported by four large wooden pillars, is commonplace in early Javanese mosques. JUNHA JANG / RIBA COLLECTIONS.

Gunditjmara village, Darlot's Creek, Victoria, Australia (before 1780)

Darlot's Creek village, established prior to 1780 and perhaps in use for 1,000 years, was one of many semi-sedentary villages in the Gunditjmara people's country in what is now southwestern Victoria. It was used for the short-finned eel-fishing season. A complex drainage system of creeks, ponds, dams, dykes, races, channels, weirs, traps and gates was engineered so as to extend, join and manage the wetlands in order to farm the eels. The structures for this purpose were of stone, stone-lined or of earth. Openings were provided in which to attach conical funnel traps manufactured of plaited reeds, about 3 metres (10 feet) in length and over 60 centimetres (24 inches) in diameter at the mouth, contracting to 10–12.5 centimetres (4–5 inches). This engineered technology provided a seasonal economy of eel harvest in winter, and perhaps for an extended period of up to nine months.

Engineered harvests and meat-smoking technology sustained large groups of people in these semi-sedentary villages, carrying out social, ritual and economic activity throughout the autumn-to-spring period – including during the cold, wet winter. At this time, three to four months of bitterly cold weather are experienced, with intermittent nocturnal frosts. The many small village houses (fig. 70.13) were made of low circular stone walls and were constructed to carry timber-framed domed roofs. These taller structures had to bear the weight of an adult carrying out roof maintenance after bad weather. Only archaeological stone remnants are present today where the village stood.

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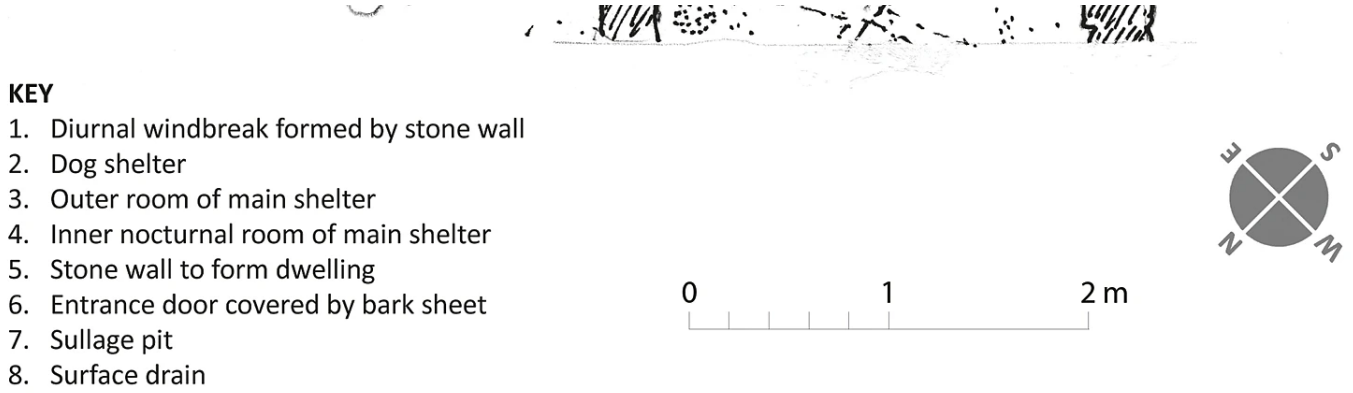

Figure 70.13. Reconstruction of a Gunditjmara village house, Darlot's Creek, Victoria, Australia (before 1780). Based on an archaeological plan by Heather Builth, this sketch shows a double-circular dwelling with thick stone walls and a timber-framed, domed roof that is clad using peat sods. PAUL MEMMOTT AFTER DR H. BUILTH.

Temporary camp, Todd River, Northern Territory, Australia (before 1780)

The complex rules and patterns of Aboriginal social organization enabled kinship links to extend from local groups to a much broader population. This was due to the overlaying of class or division systems, which allowed the classification of even distant strangers as kin, and also generated a socio-spatial structure for large camps in central Australia. This large Arrernte tribal camp (fig. 70.14) was established sometime before 1780 (and perhaps many hundreds or even some thousands of years earlier) on the Todd River for a ceremonial festival, illustrating sub-camp clustering according to Aboriginal class identity. While the camp shelters were ephemeral, the campsite and the generative rules of the socio-spatial structure were persistent across generations.

Each of the eight sub-camps was occupied by the eight subsection groups of the Arrernte peoples, and their visitors. The three-quarter circles indicate nocturnal windbreaks, which were occupied by nuclear families. In each sub-camp, the male heads of each nuclear family household shared the same social class, indicated in upper case (for example, 'KUMARA'). The class name of the wives of the male heads are in lower case (such as 'bultara'). Pairs of subsection groups formed four sub-camp clusters, whose male heads comprised a patricouple (father–son category). For example, the KUMARA and PURULA patricouple and their spouses and children formed a sub-camp cluster. Although the campsite still remains, nothing is left today of the actual camp structures.

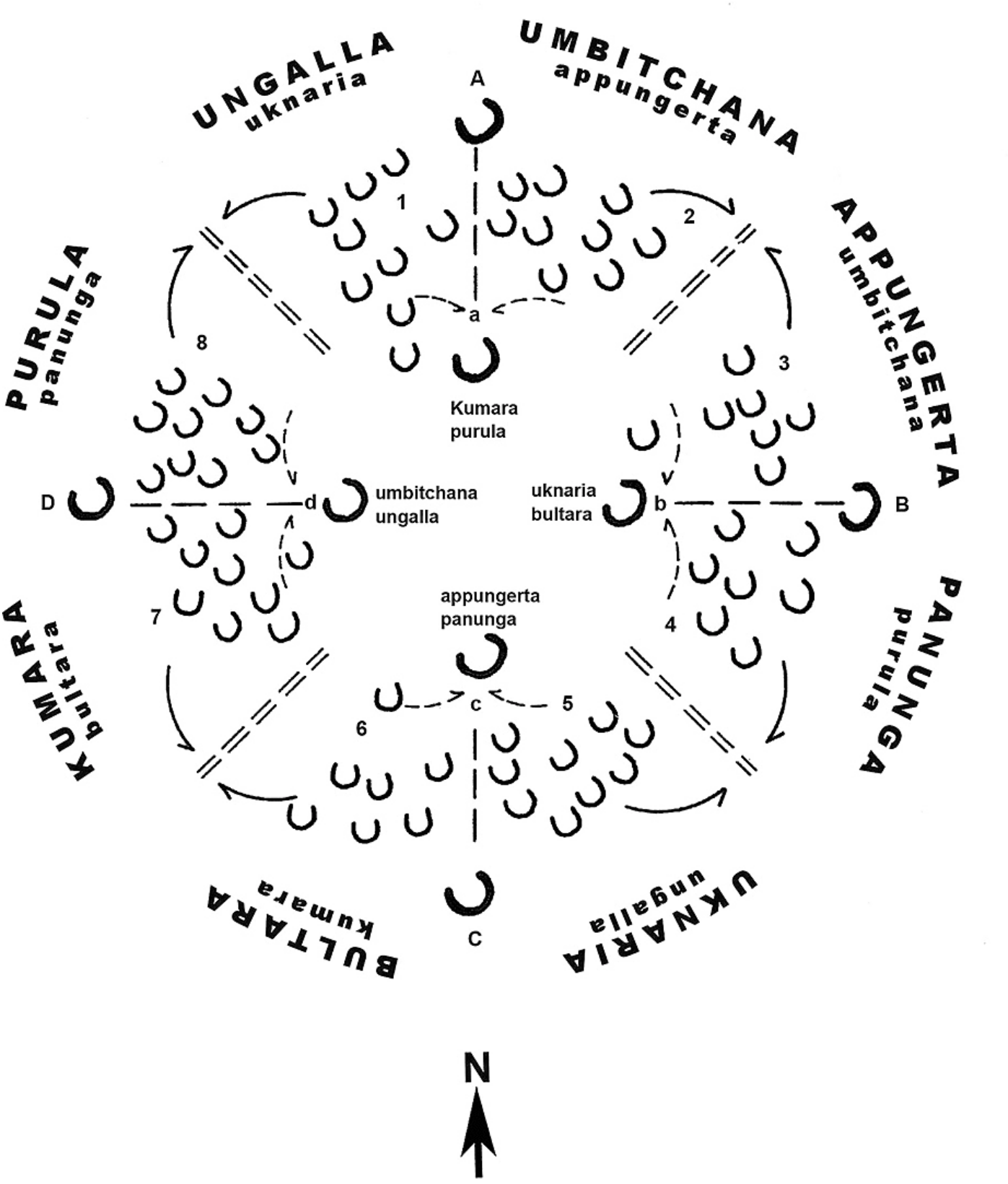

Figure 70.14. Diagram of Arrernte tribal camp, Northern Territory, Australia. Subdivided into eight sub-sections or classes, the small semicircles are nocturnal shelters. Capital letters A–D denote four diurnal meeting shelters for the men (*arnkwentye*): each contained men from two classes. Lower-case letters a–d denote those for women (*arlwekere*). Outer arrows indicate directions that men walked; inner arrows, the women. PAUL MEMMOTT AFTER SPENCE AND GILLEN (1927).

Pataka, Rangihoua, Northland, New Zealand (c. 1800–30)

The *pataka* (storehouse) built at Rangihoua, Northland, and recorded for posterity by the travelling painter Augustus Earle in 1827 (fig. 70.15), contained the most prized possessions of a community made wealthy through trade with Europeans. Many late eighteenth-century visitors to New Zealand observed that *pataka* were the most important buildings in the kin-based villages of Māori society. These small, gabled and thatched structures were raised either on a

long pole, or between two and four shorter poles, and contained preserved foods and valued items including mats, weapons, fishing equipment and gardening tools. Some had elaborate carvings and paintings on their front façades that represented the resources of the group by demonstrating, firstly, that they had valuables to protect, and secondly, the surplus economy required to support artisans who decorated the building. These ideas were continued in the thematics of the adornments. The Rangihoua *pataka* shows an embracing couple (on the left panel supporting the gable) thought to be the primeval parents – Ranginui (the Sky Father) and Papatuanuku (the Earth Mother) – before their separation liberated their children to populate the world. Other *pataka* sometimes had carved bargeboards (boards hanging from projecting roof ends) showing stylized whales being hauled in by community members, and repetitive *kowhaiwhai* (scroll) paintings on structural members that allude to the generations of descendants from founding ancestors. The whole decorative scheme and function of *pataka* was therefore concerned with fertility and abundance.

Figure 70.15. Augustus Earle, *A tabood store-house at Range-hue* (1827), Rangihoua, Bay of Islands, New Zealand. This 19th-century painting shows a typical Māori storehouse, known as a *pataka*, with its decoratively carved frontage. Rangihoua was an important Māori trading post for many centuries, and had a number of elaborately decorated *pataka* that both kept and also represented the wealth of the settlement. AUGUSTUS EARLE, A TABOOD STORE-HOUSE AT RANGE-HUE [I.E. RANGIHOUA] BAY OF ISLANDS, NEW ZEALAND, 1827. NATIONAL LIBRARY OF AUSTRALIA, NLA.OBJ-134504017.

Further Reading

Berndt, M., and Catherine H. Berndt. *The World of the First Australians: An Introduction to the Traditional Life of the Australian Aborigines* . Sydney: Ure Smith, 1964. Brown, Deidre. *Maori Architecture: From Fale to Wharenui and Beyond* . Auckland: Raupo Press, 2009. Brown, Deidre, and Peter Brunt. 'After Lapita: Voyaging and Monumental Architecture'. In *Art in Oceania: A New History* , edited by Peter Brunt and Nicholas Thomas, 50–75. London: Thames & Hudson, 2012 . Chihara, Daigoro. *Hindu-Buddhist Architecture in Southeast Asia* . Leiden: E.J. Brill, 1996. David, Bruno, Bryce Barker and Ian McNiven (eds). *The Social Archaeology of Australian Indigenous Societies* . Canberra: Aboriginal Studies Press, 2006. Dumarçay, Jacques. *The Palaces of South-East Asia* . Edited and translated by Michael Smithies Singapore: Oxford University Press, 1991. Dumarçay, Jacques, and Michael Smithies. *Cultural Sites of Burma, Thailand, and Cambodia* . Kuala Lumpur: Oxford University Press, 1995. Green, Roger, and Patrick Kirch. *Hawaiki, Ancestral Polynesia: An Essay in Historical Anthropology* . Cambridge: Cambridge University Press, 2001. Kirch, Vinton. *Evolution of the Polynesian Chiefdoms* . Cambridge and New York, NY: Cambridge University Press, 1984. McCarthy, Frederick. '"Trade" in Aboriginal Australia, and "Trade" Relationships with Torres Strait, New Guinea and Malaya'. *Oceania* 9, no. 4 (1938): 405–38; 10, no. 1 (1939): 80–104; 10, no. 2 (1939): 171–95 . Memmott, Paul. *Gunyah, Goondie + Wurley: The Aboriginal Architecture of Australia* . St Lucia: University of Queensland Press, 2007. Mjöberg, Eric. 'Beitrage zur kenntnis der Eingeborenen von Nord-Queensland (Contributions to the Knowledge of the Native of North Queensland)'. *Archiv für Anthropologie* 20 (1925): 108–35 (page referencing according to AIATSIS translation) . Morgan, William. *Prehistoric Architecture in Micronesia* . Austin, TX: University of Texas Press, 1998. Tjahjono, Gunawan, and John N. Miksic.

Architecture . Vol. 6 in Indonesian Heritage Series. Singapore: Archipelago Press, 1998. Wilkin, Anthony, and Alfred Haddon. 'Houses'. In *Reports of the Cambridge Expedition to Torres Straits: Volume 4, Arts and Crafts* , edited by A. Haddon, 93–119. Cambridge: Cambridge University Press, 1912 .